

**Climatological Data for September, 1910.**  
**DISTRICT No. 3, OHIO VALLEY.**

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**GENERAL SUMMARY.**

The general weather conditions prevailing during the month of September over the Ohio Valley were characterized as follows: There was an unusually large number of rainy days, rain falling on 20 to 25 days of the month over considerable areas. The amount of rainfall, however, was light and generally below normal over the southern portion of the district, and moderate to heavy according to locality in the northern and eastern portions of the district. There was an unusually large number of thunderstorms in practically all sections of the district, but they were particularly numerous in the central portion. These thunderstorms were of daily occurrence during the first 8 days, and in the period 23d to 27th, inclusive, and considerable damage resulted therefrom in the various localities, although it was not extensive at any one time or place. The weather was decidedly warmer than usual in all of the States south of the Ohio River, except in portions of Kentucky. Over the section north of the Ohio River and the greater portion of Kentucky the temperatures were generally seasonable and no extremes of importance were experienced. The most important temperature feature of the month was the cool wave which prevailed from the 13th to the 17th, when light frost formed in the mountain sections and at many places in the northern portion of the district, and freezing temperatures were registered at a few places.

There was considerable cloudiness and sunshine was somewhat deficient, but, considered as a whole, the month was favorable for general work and the development of the crops.

No important general barometric disturbances passed over the district during the month. High pressure largely dominated and only two or three ill-defined low pressure areas appeared.

The rivers in Pennsylvania were quite low during part of the month. In West Virginia also they were unusually low and navigation was practically suspended during part of the month. Navigation was closed on the Tennessee River above Chattanooga after the 19th and on the Cumberland River above Nashville nearly all of the month.

The droughty conditions which had prevailed for some time in Ohio were relieved by showers early in the month and again in the latter part. Abundant moisture was very beneficial to pastures and greatly improved the corn crop in Illinois and Indiana. Pastures were green at the end of the month in both of those States and in Kentucky, and winter wheat was in fine condition, although in some places the ground was too wet for plowing.

**TEMPERATURE.**

Except over a portion of Illinois, where there was a slight deficiency, the temperature for the month averaged above normal generally, the excess ranging between 1° and 4°. In the portion of the district north of the Ohio River and in northern Kentucky the general temperature conditions varied but little from normal and were ideal for the promotion of work and the maturing of crops. In Indiana maximum temperatures of 90° or over were registered on one or two dates at a few stations in the central and southern counties, but over the rest of the State the maximum temperatures did not exceed 88°, while in southwestern Virginia the highest temperature for the month was 86°. In West Virginia, western Kentucky, Tennessee, and along the southern border of the district, however, the month was unusually and continuously warm. At several stations in northern Alabama the temperature averaged the highest for any September with only one exception during the past 28 years. In Tennessee it was the third warmest and in West Virginia it was the fourth warmest September on record. These unusual conditions, how-

ever, were due to continuous moderately high temperatures, and not to extreme heat. In Tennessee there were but three or four days when the average daily temperature was not above normal.

The temperature during the first 8 days of the month was from 1° to 8° above normal over practically the whole of the district. A cool wave prevailed over the northern portion and as far south as central Kentucky on the 9th and 10th, when the temperatures were from 4° to 10° below normal. Another warm wave prevailed during the period 11th to 13th, which in turn was succeeded by a cool wave from the 14th to 17th, when the coolest weather of the month occurred over most of the district. During this period light frosts formed in the mountain section from Pennsylvania to North Carolina, and at a number of places in the States north of the Ohio River. Freezing temperature was reported from one or two places each in New York, Maryland, and southwestern Virginia, while minimum temperatures ranging between 33° and 38° were registered in the other States of the district except Illinois, where the lowest temperature of the month was 40°, and in northern Georgia and Alabama, where it was 45° and 47°, respectively. After the 19th the temperature was generally above normal, except that it was slightly below on the 28th in portions of Ohio, Indiana, Illinois, and Kentucky.

**PRECIPITATION.**

There was an unusually large number of rainy days in all parts of the district, except in the extreme southern portion. In several of the Ohio Valley States rain fell more or less generally on 20 to 25 days of the month. The daily amounts, however, were mostly small in the southern portion of the district, and the total for the month averaged somewhat below normal in Tennessee, western North Carolina, and in the northern portions of Georgia and Alabama. The rainfall in southwestern Virginia was below normal over the headwaters of the New River, but considerably in excess over the headwaters of the Tennessee River. Over the rest of the district there was a marked difference in the amount of rain received in the various localities of the several States, although it was generally above normal. The greatest rainfall at any place in the district was 10.83 inches at Sumner, Ill. Amounts ranging between 5 and 9 inches occurred in central Kentucky and over the lower and upper portions of the Wabash watershed in Illinois and Indiana, and between 5 and 7.5 inches occurred over the upper watershed of the Great Miami in west-central Ohio. There were also amounts ranging between 5 and 8.5 inches in the Mahoning and Allegheny River basins. Over the remainder of Indiana and Illinois the rainfall varied between 2.5 and 4.5 inches. There was a general deficiency in the amount of rain received in western Kentucky, but still there was enough to prevent droughty conditions from prevailing. Over Ohio, except in the sections mentioned, the amount received varied considerably according to locality and ranged between 0.6 and 4.5 inches, being deficient at many stations and in excess at a few. The drought which had prevailed so largely in this State was broken by rains that occurred in the early part of the month, but conditions again became serious during the middle of the month in portions of the State, especially in the Muskingum Valley. At Youngstown, Ohio, the Republic Iron and Steel Company was compelled to suspend operations, owing to Crab Creek, the source of their water supply, going dry. The situation was relieved, however, by the heavy rains of the 24th and 25th. At Wooster, Wayne County, the total rainfall for the 124 days ending September 23 was only 3.18 inches. The rainfall was very irregularly distributed, both as to time and area, in West Virginia. In this State, while the number of rainy days was large, the major portion of the rainfall was received during the first half of the

month. In fact, after the 15th conditions became somewhat droughty. In the central and mountain sections of the State the amount of rain received during the month was somewhat in excess, while in the southern portion and in the section bordering the Ohio River there was a considerable deficiency.

During the first 9 days of the month rain fell practically every day in all parts of the district, except in Georgia, where it was not so frequent. The rains during this period were quite heavy in Kentucky, West Virginia, Pennsylvania, and in the States north of the Ohio River. Moderate to heavy rains occurred again generally on the 12th and 13th, the 18th to 20th, and from the 24th to the 28th. In the latter period they were quite heavy in Pennsylvania, and in portions of Illinois, Ohio, and Kentucky. In several of the eastern counties of Ohio wheat ground was badly washed by the heavy rains of the 24th. Thunderstorms were unusually frequent for September, occurring almost daily during the first decade and again in the period from the 23d to the 27th. Local damage from wind, rain, or lightning attending these storms was of frequent occurrence, and in some instances considerable in amount. There were many fatalities from lightning and many instances of property being destroyed from the same cause. These storms were particularly numerous and destructive in Kentucky.

#### DAMAGE FROM STORMS AND LIGHTNING.

*September 1.*—A severe thunderstorm, attended by heavy rain, did considerable damage in Jefferson County (including Louisville), Ky.; several barns were struck by lightning and their contents destroyed. Several valuable horses and a number of head of valuable cattle were killed, and several people badly stunned by lightning.

A violent wind and hailstorm did considerable damage in the eastern part of Henry County, Ky., on the same date.

*September 2.*—There was considerable damage from excessive rains in the central portion of Kentucky, 20 head of cattle being drowned near Falmouth, as a result of a cloudburst when between 4 and 5 inches of rain fell in less than one hour.

A youth was killed by lightning near Williamsburg.

*September 6.*—Lightning struck and destroyed a barn containing hay and farming implements near Owensboro, Ky.

*September 7.*—Three persons were badly shocked in Hamilton County, Tenn., and a farmer was killed by lightning at Oakland City, Ind.

*September 8.*—A violent windstorm, with tornado characteristics, did minor damage near Golconda, Ill.

A violent windstorm occurred near Lafayette, Ga., in the afternoon, doing considerable damage, especially to trees. During the storm a schoolhouse and four residences were destroyed by lightning.

*September 9.*—A barn and contents were destroyed by lightning in Shelby County, Ky.

*September 13.*—Lightning struck and destroyed a large barn and its contents, the property of Mr. Henry Bachtold, near Newport, Ky.; loss, \$15,000. Mr. Bachtold has had a remarkable experience with lightning. Both his residence and his barn have been burned twice within the past two years.

At Salvisa, Ky., a man who was carrying a crosscut saw on his shoulder was struck and instantly killed by lightning. The saw was bent double, and another man who was walking near was seriously injured by the bolt.

A man was killed by lightning in Greenbrier County, W. Va.

*September 17.*—During a heavy storm a bolt of lightning struck the Baptist Church at Ewing, Ky., setting fire to and partially destroying the building.

*September 19.*—The residence of a young farmer living near Hillsboro, Henry County, Ky., was struck by lightning. The farmer was killed and his wife badly shocked.

A violent wind, electric, and rain storm passed over a large portion of the Blue Grass region of Kentucky during the night of the

18–19th, doing a great deal of damage over a considerable area, especially in the vicinities of Lexington and Paris. The following is a report by the Weather Bureau official at Lexington, Ky.:

Rain began in Lexington on the 18th at 7:30 p. m., and continued to 6 a. m., of the 19th, amounting to 1.32 inch. From 8:45 a. m. to 2:45 p. m. of the 19th, 2.94 inches fell. During this period the duration of time in which precipitation was actually recorded was 14 hours 22 minutes, and the amount 4.26 inches. From about 9 a. m. to 10:20 a. m. the rainfall was very heavy, the record being 2.11 inches in the hour and 20 minutes. The nearest similar records were 4.45 inches on June 26–27, 1898, for the period of 24 hours, and 2.35 inches in 1 hour, 50 minutes on July 21–22, 1892. During the heavy rain on the morning of the 19th, the thunder was almost unceasing and the lightning intensely vivid. From 9 a. m. to 11 a. m. the clouds were so low and dense that artificial light was necessary in rooms naturally well lighted. This darkness, therefore, accentuated the brilliance of the lightning. The damage from lightning was not severe in any one case, but in the aggregate of many cases was great. Over 1,000 telephones were rendered inoperative in the city, and several head of live stock in various sections of the county were killed. The most spectacular damage was the injury to the new statue of Henry Clay in the Lexington cemetery, one of the hands and one of the legs being badly shattered. The old statue had been decapitated in a storm on July 22, 1903, and the new one had been put in place in the spring of this year. Storm sewers and natural water courses were quickly overflowed and the damage from the scouring of the rushing waters was very great, especially in all work of new construction. Portions of the main street of the city were under water from curb to curb for several hours. The electric plant of the power house of the street railway company was damaged to the extent that portions of the city were poorly lighted for several days.

On the same date at Midway, Ky., a farm residence occupied by a Mr. Charles Bowman and family was struck by lightning and badly wrecked. The bed in which Mr. and Mrs. Bowman were sleeping was practically torn to pieces, the bedpost shattered into splinters, and holes burned in the mattress, yet they escaped without injury other than being rendered unconscious for a time by the shock. All the windows, chimneys, and two sides of the house were demolished and much of the furniture damaged. Two children, who occupied a bed near a stairway which was destroyed, were also uninjured. The escape of the entire family from instant death under the circumstances seemed almost miraculous.

*September 21.*—Several tobacco and hay barns were struck and destroyed by lightning in Grant County, Ky.

*September 24.*—Two residences were struck by lightning near Danville, Ky. The buildings were destroyed and several persons stunned, 1 person being seriously injured. Lightning also struck a barn at Rowletts, Ky., doing considerable damage to the building; also a valuable mule and several other farm animals were killed. There was some minor damage done in Louisville, Ky., by lightning the same day.

*September 25.*—Lightning killed a valuable brood mare and several head of stock near Lexington, and a number of valuable horses, mules, and other stock near Lebanon, Ky., also many stacks of hay were burned.

Lightning struck the residence of Mr. E. D. Bourne, cooperative observer at Taylorsville, Ky., doing considerable damage and performing many freaks, but fortunately not injuring any of the family.

A cloudburst near Burnside did considerable damage to the Queen and Crescent Railway tracks and trestles in that vicinity.

A man was killed by lightning at Donaldson, Tenn., while attending church services, and several others in the audience were badly stunned.

At Lexington, Tenn., one man was killed by lightning and two badly injured under a tree, where they had taken refuge from the storm.

*September 29.*—The Baptist Church, a public school building, and the buildings of a lumber company were struck by lightning and all partially destroyed at Charleston, Tenn.

#### ENGINEERING NOTES.

A company has been organized to develop the water power of the Ocoee River in Polk County, Tenn. The project has been adequately financed and all the preliminaries, such as water

sites, rights of way, franchises, etc., have been secured and work will begin at once on the actual construction. The plans call for a power scheme which will provide 80,000 or more horsepower and will involve the expenditure of between \$3,000,000 and \$4,000,000. The power is to be converted into electric current and distributed to cities and towns in east Tennessee and north Georgia.

The Ocoee River threads its way through Beans Mountain in Polk County, and, by means of dams and reservoirs, a fall of nearly 300 feet will be secured at one place. The plans as now drawn provide for two dam sites. One will be near Parksville and the other in the Little Frog Mountain near Ducktown. It is proposed to generate from 30,000 to 40,000 horsepower at each of these dams.

A syndicate of New York capitalists recently paid \$100,000 for the falls property at Cumberland Falls, Ky. It is the intention

of the company to install proper machinery at the falls for the purpose of developing electric power, which will be transmitted to various towns throughout southern Kentucky.

An effort is being made to raise \$10,000 by private subscription for the purpose of building a levee to protect West Hickman, Ky. (situated on the Mississippi River), and the large factories located there, from the high waters that come practically every spring, and which cause the plants to shut down for several weeks each year, throwing 500 or more men out of work during the time, besides doing a great deal of damage to property. More than half the money has been subscribed, and it is thought that the balance will be in a short time, and work begun and the levee completed in time for the spring high water of 1911. The levee when built will join with the government levee, which is a short distance below the city limits.



















TABLE 3.—*Maximum and minimum temperatures at selected stations, September, 1910. District No. 9—Continued.*

Date.	Kentucky.														Indiana.														Philo, Ill.
	Bowling Green. Ky.		Erlington. Ky.		Greensburg. Ky.		Lexington.		Louisville.		Maysville. Ky.		Williamsburg. Ky.		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.				
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1...	96	67	91	67	90	64	83	65	86	67	84	67	90	69	85	65	88	69	71	59	71	55	73	62	81	69	74	61	
2...	90	67	89	69	87	64	82	64	85	65	89	63	88	62	87	67	87	68	80	58	76	51	73	57	82	62	78	56	
3...	91	68	93	68	84	64	82	68	87	71	86	64	87	66	87	67	82	70	80	67	84	64	80	65	79	68	82	62	
4...	91	65	91	69	85	65	80	68	74	69	84	67	85	67	81	66	75	69	78	69	82	67	78	68	83	77	81	66	
5...	92	69	91	69	88	65	85	68	89	69	90	68	90	66	87	67	86	70	83	69	84	68	78	69	83	70	85	70	
6...	89	72	89	72	88	72	82	71	84	71	87	73	87	72	86	64	80	69	82	68	81	67	80	68	81	68	82	66	
7...	97	87	97	66	92	66	87	70	90	72	91	66	91	67	87	63	72	77	66	85	59	80	64	82	65	82	69	82	
8...	97	70	98	72	92	65	83	70	91	71	90	66	91	67	89	68	90	69	86	68	81	67	85	67	86	77	87	69	
9...	87	67	82	64	83	64	75	58	76	60	77	66	87	64	80	58	74	59	72	55	79	59	72	53	80	63	74	55	
10...	86	55	85	53	77	53	72	52	75	54	80	50	88	58	75	46	75	54	70	50	71	43	69	47	72	50	70	43	
11...	93	58	94	53	78	52	84	59	88	56	90	50	89	60	85	47	87	58	81	52	79	41	80	50	82	49	81	47	
12...	93	64	97	69	90	59	86	68	92	72	93	58	91	62	90	68	91	71	86	68	80	41	85	60	87	67	85	62	
13...	94	64	93	64	92	62	85	67	89	70	83	61	91	63	84	68	80	68	86	64	66	58	65	60	80	68	65	58	
14...	81	67	78	65	75	62	70	57	75	59	77	59	76	67	74	62	77	60	70	57	68	50	69	54	74	59	68	52	
15...	82	55	82	52	74	62	70	53	73	55	78	47	77	54	72	48	73	55	72	50	74	42	71	48	72	48	69	48	
16...	88	48	86	44	89	42	73	52	79	53	80	44	79	46	80	45	80	54	76	53	79	43	76	50	78	48	77	44	
17...	90	49	89	45	77	43	78	54	84	53	83	47	82	48	82	46	83	55	77	54	75	44	79	52	79	48	82	47	
18...	78	55	88	49	71	51	73	59	77	62	82	50	81	48	76	53	85	62	81	61	77	58	84	60	85	59	85	58	
19...	87	59	91	65	72	55	66	60	72	64	72	60	70	51	73	61	84	67	76	66	77	54	79	65	85	65	79	60	
20...	93	60	93	62	85	55	77	62	80	63	76	59	86	47	82	62	81	65	73	62	75	59	78	59	77	64	79	62	
21...	89	61	90	60	84	55	78	50	82	61	84	59	85	61	82	56	82	62	70	59	78	52	78	54	80	56	79	52	
22...	91	60	91	55	82	55	78	57	83	61	84	55	89	59	81	55	86	62	73	57	76	53	79	57	81	54	81	52	
23...	95	61	96	61	90	54	84	65	88	65	94	57	90	60	93	60	89	65	78	61	76	56	71	62	79	60	81	60	
24...	96	65	84	61	84	58	80	64	80	69	87	60	89	57	80	67	81	70	74	65	74	63	73	64	75	67	71	57	
25...	73	60	78	60	92	60	72	61	74	65	84	64	88	62	81	63	77	63	71	58	67	55	71	58	74	61	70	57	
26...	90	59	92	58	90	56	81	59	85	64	89	57	87	58	86	62	84	63	77	57	69	46	72	55	79	59	74	52	
27...	81	62	73	61	80	56	74	60	75	59	87	59	82	60	75	59	89	66	66	45	67	54	72	59	67	49	70	40	
28...	81	54	79	52	77	52	70	53	73	53	77	49	79	62	75	42	72	52	72	42	71	42	73	44	70	46	70	40	
29...	83	54	85	49	77	51	74	52	76	54	83	49	79	55	79	48	74	55	75	54	75	41	73	52	76	48	76	45	
30...	85	55	87	52	82	52	80	57	82	53	85	50	85	57	83	56	83	58	78	54	77	41	77	52	81	47	80	47	
31...																													
Mns	88.6	61.2	88.3	60.2	83.6	57.5	78.1	61.0	81.4	62.7	84.2	58.1	85.3	59.8	81.8	58.8	81.6	62.9	76.5	59.6	75.8	52.8	75.9	57.5	78.8	59.3	76.8	55.0	